Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

The value of the test rests upon the facility with which the multiple of 21 is created, inasmuch as to multiply by 2 is a mental process much more surely within the mind of a child than dividing by 7.

2. A test for the divisibility by 13 is to be found by a similar process and upon the same principles—being based on the fact that 91 is a multiple of 7. Multiply the unit figure by 9 and find the difference between the product and the number without its unit figure. Thus, in 1183, $9\times3=27$, $118-27=91$, and in 91, $9\times1=9$, $9-9=0$. For 325, $9\times5=45$, $45-32=13$.

3. Likewise for 17, multiply by 5, since 51 is a multiple of 17. So for 595, $5\times5=25$; $59-24=34$. For 2244, $5\times4=20$, $224-20=204$; $5\times4=20$, $20-20=0$.

NOTE ON THE EVOLUTE OF AN ALGEBRAIC CURVE.

By A. H. WILSON, Instructor of Mathematics, University of Illinois.

The following method of forming the evolute of an algebraic curve may be of interest.

Let $f(x, y)=\varphi$ represent the curve, and $y-y_1=l(x-x_1)$ its normal at the point (x_1y_1) on the curve, l being a function of x_1 and y_1. The elimination of x_1 (or y_1) between $f(x_1, y_1)=0$ and $\beta-y_1=l(a-x_1)$, gives an equation

$$\varphi(y_1)=0 \text{ (or } \psi(x_1)=0),$$

whose roots are the ordinates (or the abscissas) of the points on the curve the normals at which pass through the point (a, β).

The evolute may be regarded as the locus of points from which two of the normals through (a, β) to the curve are coincident; and hence the equation of the evolute is the relation between a and β obtained by setting equal to zero the discriminant of $\varphi=0$ (or $\psi=0$).

The application of the method is obviously very limited.

DETERMINATION OF THE RADIUS OF CURVATURE OF THE CYCLOID WITHOUT THE AID OF THE CALCULUS.

By FREDERIC R. HONEY, Hartford, Conn.

Let A represent any regular polygon. If we roll it along the straight line BC into the positions A', A'', ... bringing each side in succession into coinci-